WHAT IS CLAIMED IS:

1. In a method of stretching a polymeric film comprising the steps of grasping the film with a plurality of clips along the opposing edges of the film and propelling the clips to thereby stretch the film, wherein the plurality of clips includes driven clips and idler clips, with at least one idler clip between respective pairs of driven clips, the improvement comprising:

a) heating the polymeric film to a sufficiently high temperature to allow a significant amount of stretching without breaking; and

b) actively imparting a machine direction cooling gradient to at least a portion of the width of the stretched film in an effective amount to improve the uniformity of spacing of the driven and idler clips.

2. The method of claim 1, wherein step b) includes cooling the opposed edge portions of the film.

3. The method of claim 1, wherein step b) includes cooling the center portion of the film.

4. The method of claim 1, wherein step b) includes cooling substantially the entire width of the film.

5. The method of claim 1, wherein step b) includes cooling at least a portion of the film by at least 3°C.

6. The method of claim 1, wherein the method further includes propelling the clips through a stretch section in which the film is stretched and subsequently through a post-stretch treatment section, and wherein step b) is performed in at least one of the stretch section and the treatment section.

7. The method of claim 1, wherein the method includes biaxially stretching the film.

8. The method of claim 7, wherein the method includes simultaneously biaxially stretching the film by propelling the clips at varying speeds in the machine direction along clip guide means that diverge in the transverse direction.

9. The method of claim 8, wherein the method includes stretching the film to a final stretch ratio of at least 2:1 in the machine direction and at least 2:1 in the transverse direction.

10. The method of claim 1, wherein there are at least two idler clips between each respective pair of driven clips.

11. The method of claim 1, wherein the film comprises a thermoplastic film.

12. The method of claim 11, wherein the film comprises an amorphous film.

13. The method of claim 11, wherein the film comprises a semi-crystalline film.

14. The method of claim 13, wherein the semi-crystalline film has a degree of crystallinity greater than about 1% prior to said heating.

15. The method of claim 13, wherein the semi-crystalline film has a degree of crystallinity greater than about 7% prior to said heating.

16. The method of claim 13, wherein the semi-crystalline film has a degree of crystallinity greater than about 30% prior to said heating.

17. The method of claim 11, wherein the film comprises a vinyl polymer.

18. The method of claim 17, wherein the film comprises a polyolefin.

19. The method of claim 18, wherein the film comprises polyethylene.

20. The method of claim 19, wherein the film comprises polypropylene.

21. The method of claim 20, wherein the method includes stretching the film to a final area stretch ratio of at least 16:1.

22. The method of claim 21, wherein the method includes stretching the film to a final area stretch ratio of from 25:1 to 100:1.

23. The method of claim 20, wherein step a) comprises heating the film to from 120 to 165°C.

24. The method of claim 23, wherein step a) comprises heating the film to from 150 to 165°C.

25. The method of claim 23, wherein step b) includes forcing cooling air onto the film, wherein the cooling air is at least 5°C cooler than the film.

26. In a method of stretching a polymeric film comprising the steps of grasping the film with a plurality of clips along the opposing edges of the film and propelling the clips to thereby stretch the film, wherein the plurality of clips includes driven clips and idler clips, with at least one idler clip between respective pairs of driven clips, the improvement comprising:

a) heating the center portion and edge portions of the polymeric film to a sufficiently high temperature to allow a significant amount of stretching without breaking;

b) at the onset of stretching, maintaining the edge portions of the film no hotter than the center portion of the film; and

c) imparting a machine direction cooling gradient at least a portion of the width of the stretched film in an effective amount to improve the uniformity of spacing of the driven and idler clips.

27. The method of claim 26, wherein step b) includes actively cooling the opposed edge portions of the film.

28. The method of claim 26, wherein step c) includes cooling the center portion of the film.

29. The method of claim 26, wherein step c) includes cooling the opposed edge portions of the film.

30. The method of claim 26, wherein step c) includes cooling substantially the entire width of the film.

31. The method of claim 26, wherein step c) includes cooling at least a portion of the film by at least 3°C.

32. The method of claim 26, wherein the method further includes propelling the clips through a stretch section in which the film is stretched and subsequently through a post-stretch treatment section, and wherein step c) is performed in at least one of the stretch section and the treatment section.

33. The method of claim 26, wherein the method includes biaxially stretching the film.

34. The method of claim 33, wherein the method includes simultaneously biaxially stretching the film by propelling the clips at varying speeds in the machine direction along clip guide means that diverge in the transverse direction.

35. The method of claim 26, wherein the film comprises a thermoplastic film.

36. The method of claim 35, wherein the film comprises an amorphous film.

37. The method of claim 35, wherein the film comprises a semi-crystalline film.

38. The method of claim 37, wherein the semi-crystalline film has a degree of crystallinity greater than about 1% prior to said heating.

39. The method of claim 38, wherein the semi-crystalline film has a degree of crystallinity greater than about 7% prior to said heating.

40. The method of claim 37, wherein the semi-crystalline film has a degree of crystallinity greater than about 30% prior to said heating.

41. The method of claim 35, wherein the film comprises a vinyl polymer.

42. The method of claim 41, wherein the film comprises a polyolefin.

43. The method of claim 42, wherein the film comprises polyethylene.

44. The method of claim 42, wherein the film comprises polypropylene.

45. The method of claim 44, wherein the method includes stretching the film to a final area stretch ratio of from 16:1 to 100:1.

46. The method of claim 44, wherein step a) comprises heating the film to from 120 to 165°C.

47. The method of claim 44, wherein step a) comprises heating the film to from 150 to 165°C.

48. The method of claim 46, wherein step c) includes forcing cooling air onto the film, wherein the cooling air is at least 5°C cooler than the film.

49. In a method of stretching a polymeric film comprising the steps of grasping the film with a plurality of clips along the opposing edges of the film and propelling the clips to thereby stretch the film, wherein the plurality of clips includes driven clips and idler clips, with at least one idler clip between respective pairs of driven clips, the improvement comprising:

a) heating the polymeric film to a sufficiently high temperature to allow a significant amount of stretching without breaking; and

b) imparting a machine direction cooling gradient to at least a portion of the width of the stretched film in an effective amount to reduce the value of idler clip lag from the value of idler clip lag in the absence of said cooling.

50. The method of claim 49, wherein step b) includes actively cooling the opposed edge portions of the film.

51. The method of claim 49, wherein step b) includes actively cooling the center portion of the film.

52. The method of claim 49, wherein step b) includes actively cooling substantially the entire width of the film.

53. The method of claim 49, wherein step b) includes cooling at least a portion of the film by at least 3°C.

54. The method of claim 49, wherein the method further includes propelling the clips through a stretch section in which the film is stretched and subsequently through a post-stretch treatment section, and wherein step b) is performed in at least one of the stretch section and the treatment section.

55. The method of claim 49, wherein the method includes biaxially stretching the film.

56. The method of claim 49, wherein the method includes simultaneously biaxially stretching the film by propelling the clips at varying speeds in the machine direction along clip guide means that diverge in the transverse direction.

57. The method of claim 49, wherein the film comprises polypropylene.

58. The method of claim 57, wherein the method includes stretching the film to a final area stretch ratio of from 16:1 to 100:1.

59. The method of claim 57, wherein step a) comprises heating the film to from 120 to 165°C.

60. The method of claim 59, wherein step b) includes forcing cooling air onto the film, wherein the cooling air is at least 5°C cooler than the film.

61. In a method of stretching a polymeric film comprising the steps of grasping the film with a plurality of clips along the opposing edges of the film and propelling the clips to thereby stretch the film, wherein the plurality of clips includes driven clips and idler clips, with at least one idler clip between respective pairs of driven clips, the improvement comprising:

a) heating the polymeric film to a sufficiently high temperature to allow a significant amount of stretching without breaking; and

b) imparting a machine direction cooling gradient to at least a portion of the width of the stretched film in an effective amount to improve the downweb caliper uniformity relative to the downweb caliper uniformity in the absence of said cooling.

62. The method of claim 61, wherein step b) includes actively cooling the opposed edge portions of the film.

63. The method of claim 61, wherein step b) includes actively cooling the center portion of the film.

64. The method of claim 61, wherein step b) includes actively cooling substantially the entire width of the film.

65. The method of claim 61, wherein the method further includes propelling the clips through a stretch section in which the film is stretched and subsequently through a post-stretch treatment section, and wherein step b) is performed in at least one of the stretch section and the treatment section.

66. The method of claim 61, wherein the method includes simultaneously biaxially stretching the film by propelling the clips at varying speeds in the machine direction along clip guide means that diverge in the transverse direction.

67. The method of claim 61, wherein the film comprises polypropylene.

68. The method of claim 67, wherein the method includes stretching the film to a final area stretch ratio of from 16:1 to 100:1.

69. The method of claim 67, wherein step a) comprises heating the film to from 120 to 165°C.

70. The method of claim 69, wherein step b) includes forcing cooling air onto the film, wherein the cooling air is at least 5°C cooler than the film.

71. In a method of stretching a pre-crystallized polymeric film comprising the steps of grasping the film with a plurality of clips along the opposing edges of the film and propelling the clips to thereby stretch the film, wherein the plurality of clips includes driven clips and idler clips, with at least one idler clip between respective pairs of driven clips, the improvement comprising:

a) heating the polymeric film to a sufficiently high temperature to allow a significant amount of stretching without breaking; and

b) imparting a machine direction cooling gradient to at least a portion of the width of the film in an effective amount to improve the uniformity of spacing of the driven and idler clips.

72. The method of claim 71, wherein step b) includes actively cooling the opposed edge portions of the film.

73. The method of claim 71, wherein step b) includes actively cooling the center portion of the film.

74. The method of claim 71, wherein step b) includes actively cooling substantially the entire width of the film.

75. The method of claim 71, wherein the method further includes propelling the clips through a stretch section in which the film is stretched and subsequently through a post-stretch treatment section, and wherein step b) is performed in at least one of the stretch section and the treatment section.

76. The method of claim 71, wherein the method includes simultaneously biaxially stretching the film by propelling the clips at varying speeds in the machine direction along clip guide means that diverge in the transverse direction.

77. The method of claim 71, wherein the film comprises polypropylene.

78. The method of claim 77, wherein the method includes stretching the film to a final area stretch ratio of from 16:1 to 100:1.

79. The method of claim 77, wherein step a) comprises heating the film to from 120 to 165°C.

80. The method of claim 79, wherein step b) includes forcing cooling air onto the film, wherein the cooling air is at least 5°C cooler than the film.

81. In a method of stretching a vinyl polymer film comprising the steps of grasping the film with a plurality of clips along the opposing edges of the film and propelling the clips to thereby stretch the film, wherein the plurality of clips includes driven clips and idler clips, with at least one idler clip between respective pairs of driven clips, the improvement comprising:

a) heating the polymeric film to a sufficiently high temperature to allow a significant amount of stretching without breaking; and

b) imparting a machine direction cooling gradient to at least a portion of the width of the stretched film in an effective amount to improve the uniformity of spacing of the driven and idler clips.

82. The method of claim 81, wherein step b) includes actively cooling the opposed edge portions of the film.

83. The method of claim 81, wherein step b) includes actively cooling the center portion of the film.

84. The method of claim 81, wherein step b) includes actively cooling substantially the entire width of the film.

85. The method of claim 81, wherein the method further includes propelling the clips through a stretch section in which the film is stretched and subsequently through

a post-stretch treatment section, and wherein step b) is performed in at least one of the stretch section and the treatment section.

86. The method of claim 81, wherein the method includes simultaneously biaxially stretching the film by propelling the clips at varying speeds in the machine direction along clip guide means that diverge in the transverse direction.

87. The method of claim 81, wherein the film comprises polypropylene.

88. The method of claim 89, wherein the method includes stretching the film to a final area stretch ratio of from 16:1 to 100:1.

89. The method of claim 87, wherein step a) comprises heating the film to from 120 to 165°C.

90. The method of claim 89, wherein step b) includes forcing cooling air onto the film, wherein the cooling air is at least 5°C cooler than the film.